#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization International Bureau



# 

#### (43) International Publication Date 12 May 2005 (12.05.2005)

## (10) International Publication Number WO 2005/042708 A2

(51) International Patent Classification7:

**C12N** 

(21) International Application Number:

PCT/US2004/035636

(22) International Filing Date: 27 October 2004 (27.10.2004)

(25) Filing Language:

English

(26) Publication Language:

English

US

(30) Priority Data: 60/515,180 27 October 2003 (27.10.2003)

60/572,314

US 17 May 2004 (17.05.2004)

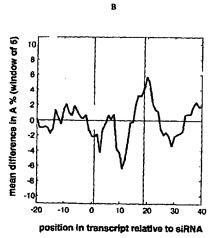
- (71) Applicant (for all designated States except US): ROSETTA INPHARMATICS LLC [US/US]; 401 Terry Avenue North, Seattle, WA 98109 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): JACKSON, Aimee, L. [US/US]; 12046-A Roosevelt Way NE, Seattle, WA 98125 (US). BARTZ, Steven, R. [US/US]; 109 NW 49th Street, Seattle, WA. 98107 (US). BURCHARD, Julia {US/US}; 8412 74th Drive NE, Marysville, WA 98270

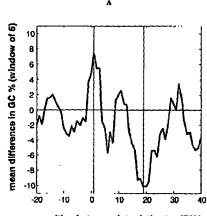
(US). LINSLEY, Peter, S. [US/US]; 2528 11th Avenue, NW, Seattle, WA 98119 (US). GE, Wei [CN/US]; 16121 NE 109th Street, Redmond, WA 98052 (US). CAVET, Guy, L. [GB/US]; 2509 31st Avenue, S., Seattle, WA 98144 (US).

- (74) Agents: ANTLER, Adriane, M. et al.; Jones Day, 222 East 41st Street, New York, NY 10017-6702 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD. MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: METHOD OF DESIGNING SIRNAS FOR GENE SILENCING





position in transcript relative to siRNA

(57) Abstract: The present invention provides a method for identifying siRNA target motifs in a transcript using a position-specific score matrix approach. The invention also provides a method for identifying off-target genes of an siRNA using a position-specific score matrix approach. The invention further provides a method for designing siRNAs with higher silencing efficacy and specificity. The invention also provides a library of siRNAs comprising siRNAs with high silencing efficacy and specificity.

#### 

SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### Published:

 without international search report and to be republished upon receipt of that report For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.